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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,704

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Ari Vaisanen

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32294

7590

10/26/2009

SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

MANOHARAN, MUTHUSWAMY GANAPATHY

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,704	Applicant(s) VAISANEN ET AL.	
	Examiner MUTHUSWAMY G. MANOHARAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,27-29,32,34-37,40-45,48-49,56,58-59,61,66-68,70-73,75-78 and 85-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 25,27-29,32,34-37,40-45,48,49,56,58,59,61,66-68,70-73,75-78 and 85-90.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/3/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25, 28, 32, 35-36, 40-45, 48-49, 56, 58-59, 61, 67, 70-72 75-78 and 85-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith et al. (hereinafter Raith) (US 6259915) in view of Takayama et al. (hereinafter Takayama) (US 6917804).

Regarding **claim 25**, Raith teaches an apparatus comprising:

Processor configured to provide access to a wireless communication network (base stations 28, 30 in Figure 1), and provide access to a wireless communication network (figure 1);

determine and transmit communication information to a subscriber terminal, said communication information comprising (Col. 8, lines 27-31), wherein

said communication information comprises frequency band information indicating a plurality of frequency bands on which at least one access node portion of the wireless network is configured to communicate ("alternatively a single message format could be provided which identifies specific channels and hyperbands", Col. 8, lines 31-33) and

wherein said processor is further configured to incorporate the communication information in a signaling using a transmission of specific frames to said subscriber terminal (Figures 8a and 8b, "transmitting a signal from base station to the mobile station", Col. 8, lines 1-11, lines 27-34), and the communication information further comprises a frequency channel indicator that indicates the frequency channel used by the apparatus at the respective frequency band (col. 8, lines 27-29; Figure 8a and 8b).

Note: all mobile and base stations have processors.

Raith fails to teach a receiver configured to receive a request for communication information from a subscriber terminal and transmit the communication information to the subscriber terminal in response to the request and IEEE 802.11 standard. However, Takayama teaches in an analogous art a receiver configured to receive a request for

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communication information from a subscriber terminal and transmit the communication information to the subscriber terminal in response to the request and IEEE 802.11 standard (col. 6, lines 60-65). Therefore, it would be obvious to one of ordinary skill in the art at the time invention to have a receiver configured to receive a request for communication information from a subscriber terminal and transmit the communication information to the subscriber terminal in response to the request and IEEE 802.11 standard in order to obtain the neighboring information proactively and also to provide greater connectivity to variety of wired and wireless networks and hence greater flexibility.

Regarding **claim 28**, Raith further teaches an apparatus, wherein said communication information further comprises a multiple band indicator related to an access node (Col. 5, lines 56-59, Col. 6, lines 1-7).

Regarding **claim 32**, Raith teaches an apparatus comprising:

A processor configured to communicate in a wireless communication network (Figures 1-2);

receive communication information transmitted from at least one access node of the wireless communication network, said communication information comprising (Col. 8, lines 27-31):

frequency band information comprises frequency bands on which the at least one access node is configured to communicate ("alternatively a single message format could be provided which identifies specific channels and hyperbands", Col. 8, lines 31-33), and wherein said communication information is received being transmitted from

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said at least one access node by signaling by transmission of specific frames (Figures 4-5);

the processor is configured to process the received transmitted communication information so as to determine based on the communication information a communication connection capability of at least part of the at least one access node on the basis of the frequency band information ("MAHO", Col. 8, lines 12-26); wherein

the processor is configured to decide on a communication connection changeover for the communicator of the apparatus by using a processing result (Col. 7, lines 58-67), and the communication information further comprises a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency (col. 8, lines 27-29; Figure 8a and 8b).

Raith fails to teach request communication information from at least one access node of the wireless communication network and receive in response to the request the communication information transmitted from the at least one node and wireless communication network is a WLAN, based on an IEEE 802.11 standard. However, Takayama teaches in an analogous art request communication information from at least one access node of the wireless communication network and receive in response to the request the communication information transmitted from the at least one node and wireless communication network is a WLAN, based on an IEEE 802.11 standard (col. 6, lines 60-65). Therefore, it would be obvious to one of ordinary skill in the art at the time invention to have one access node of the wireless communication network and receive in response to the request the communication information transmitted from the at least

one node and wireless communication network is a WLAN, based on an IEEE 802.11 standard in order to obtain the neighboring information proactively and also to provide greater connectivity to variety of wired and wireless networks and hence greater flexibility.

Regarding **claim 35**, Raith further teaches a processor is further configured to extract the communication information from a beacon packet broadcasted from the access node (Col. 8, lines 1-5).

Claim 36 is rejected for the same reason as set forth in claim 28.

Regarding **claim 40**, Raith teaches the apparatus according to claim 32, wherein the processor is further configured to:

a detector configured to detect a signal strength indicator on a predetermined frequency band, compare the detected signal strength indicator with a predefined threshold value, wherein the result of the comparison indicating an estimation of the connection capability of an access node on another frequency band, and use the result of said comparison to decide on the communication connection changeover(Col. 6, lines 54-63).

Regarding **claim 41**, Raith teaches the apparatus, wherein the processor is further configured to decide to change the communication connection from the present frequency band to another frequency band that is common to the apparatus and the access node associated with the apparatus (col. 7, lines 44-47).

Regarding **claim 42**, Raith teaches the apparatus, wherein the processor is further configured to decide to change the communication connection from a current access node (item 30 in Figure 1) to a specific frequency band of a neighboring access node that is common to the apparatus and the neighboring access node to be associated with the apparatus (Col. 7, lines 41-67; Col. 8, lines 1-11).

Regarding **claim 43**, Raith further teaches the apparatus, wherein the processor is further configured to process communication information transmitted from two or more access nodes in the wireless communication network are processed in said processing step (Col. 8, lines 26-35).

Claims 44 and 45 are rejected for the same reason as set forth in claims 25 and 32 respectively.

Claims 48 and 49 are rejected for the same reason as set forth in claim 32.

Regarding **claim 56**, Raith teaches the apparatus, wherein the signaling comprises a transmission of one or more specific frames (Figures 8a and 8b, "transmitting a signal from base station to the mobile station", Col. 8, lines 1-11, lines 27-34).

Regarding **claim 58**, Raith teaches the apparatus, wherein the multiband indicator indicates at least one frequency band (Col. 5, lines 47-67).

Claims 59 and 61 are rejected for the same reason as set forth in claim 56 and 58 respectively.

Claim 67 is rejected for the same reason as set forth in claim 28.

Claim 70 and 71-72 are rejected for the same reason as set forth in claims 27, 35, 28 respectively.

Regarding **claim 75**, Raith teaches the method according to claim 49, further comprising: detecting a signal strength indicator on a predetermined frequency band; comparing the detected signal strength indicator with a predefined threshold value (“communication quality drops below an acceptable threshold”, Col. 7, lines 41-67), wherein the result of the comparison indicates an estimation of the communication connection capability of an access node on another frequency band; and using the result of said comparison to decide on the communication connection changeover (Col. 7, lines 41-67; Col. 8, lines 1-11).

Regarding **claim 76**, Raith teaches the method of deciding to change the communication connection from the present frequency band to another frequency band that is common to the subscriber terminal and the access node associated with the subscriber terminal (Col. 7, lines 41-67 and col. 8, lines 1-11).

Regarding **claim 77**, Raith teaches the method according to claim 49, further comprising: deciding to change the communication connection from a current access node to a specific frequency band of a neighboring access node that is common to the subscriber terminal and the neighboring access node to be associated with the subscriber terminal (Col. 7, lines 41-67, Col. 8, lines 1-11).

Regarding **claim 78**, Raith teaches the method according to claim 49, further comprising: processing communication information transmitted from two or more access

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nodes in the wireless communication network (Figure 1, Col. 7, lines 41-67, Col. 8, lines 1-35).

Claims 85 and 86 are rejected for the same reason as set forth in claims 25 and 32 respectively.

Regarding **claim 87**, Takayama teaches the apparatus wherein the communication information further comprises a frequency band coverage indicator related to at least one of the frequency band of neighboring access nodes of the apparatus in the wireless communication network (col. 4, lines 30-35).

Claims 88-90 are rejected for the same reason as set forth in claim 87.

Claims 27, 34 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith et al. (hereinafter Raith) (US 6259915) in view of Takayama et al. (hereinafter Takayama) (US 6917804) and Proctor et al. (hereinafter Proctor) (US 2004/0256963).

Regarding claim 27, Takayama teaches frequency bands comprise a frequency band of 2.4 GHz. The combination of Raith and Takayama did not teach specifically one or more frequency bands between 5 and 6 GHz. However, Proctor teaches in an analogous art one or more frequency bands between 5 and 6 GHz (paragraph [0035]). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use one or more frequency bands between 5 and 6 GHz in order to increase the range of a wireless network.

Claims 34 and 66 are rejected for the same reason as set forth in claim 27.

Claims 29, 37, 68 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith et al. (hereinafter Raith) (US 6259915) in view of Takayama et al. (hereinafter Takayama) (US 6917804) and AP (applicant admitted prior art) (US 2006/0073827).

Regarding **claim 29**, the combinations of Raith and Takayama teaches all the particulars of the claim except communication information further comprises a traffic load indicator related to the at least one frequency band of an access node. However, AP teaches in an analogous art communication information further comprises a traffic load indicator related to the at least one frequency band of an access node (Paragraph [0010]). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the communication information further comprises a traffic load indicator related to the at least one frequency band of an access node in order to perform changeover.

Claims 37, 68 and 73 are rejected for the same reason as set forth in claim 29.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUTHUSWAMY G. MANOHARAN whose telephone number is (571)272-5515. The examiner can normally be reached on 7:00AM-2:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2617